

# Mineral Industry Surveys

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## VANADIUM IN FEBRUARY 2002

According to Metal Bulletin, U.S. ferrovanadium prices during February ranged from \$3.40 to \$3.80 per pound of vanadium content, the same as in January. The range for European ferrovanadium prices in February was \$6.15 to \$6.30 per kilogram of vanadium content. In January, European ferrovanadium ranged from \$6.15 to \$6.35 per kilogram of vanadium content. For vanadium pentoxide, the February range was \$1.03 to \$1.15 per pound.

Xstrata AG reported that its vanadium operations in South Africa and Australia had lost \$41.6 million in 2001 compared

to earnings of \$20.6 million in 2000 (Ryan's Notes, 2002). Xstrata reported that in 2001 it produced nearly 18,000 metric tons (t) of vanadium pentoxide and more than 6,000 t of ferrovanadium.

### Reference Cited

Ryan's Notes, 2002, V producers see surplus; do little: Ryan's Notes, v. 8, no. 8, February 25, p. 3.

TABLE 1  
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM 1/

(Kilograms, contained vanadium)

	2001 p/		2002			
			January		February	
	Consumption	Stocks	Consumption r/	Stocks r/	Consumption	Stocks
Ferrovandium 2/	2,800,000	245,000	226,000	143,000	231,000	159,000
Vanadium-aluminum alloy	W	10,500	W	6,170	W	6,850
Other 3/	484,000	7,910	34,000	4,630	35,300	5,140
Total	3,280,000	264,000	260,000	154,000	266,000	171,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol "W."

TABLE 2  
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	2001 p/	2002		
		January	February	Year to date
Steel:				
Carbon	997,000	67,500 r/	81,100	149,000
High-strength low-alloy	769,000	W	W	W
Stainless and heat-resisting	26,300	W	W	W
Full alloy	701,000	66,000 r/	51,200	117,000
Tool	261,000	20,300	32,800	53,100
Total steel	2,750,000	222,000 r/	227,000	448,000
Superalloys	16,000	1,220	846	2,070
Miscellaneous and unspecified 2/	514,000	37,000 r/	38,500	75,500
Total consumption	3,280,000	260,000 r/	266,000	526,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Total steel."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3  
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND  
VANADIUM METAL, INCLUDING WASTE AND SCRAP 1/

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2001	10,100	\$45,100	50,000	\$639,000
2002:				
January:				
Germany	--	--	75	42,900
Total	--	--	75	42,900
Exports:				
2001	363,000	6,990,000	26,300	380,000
2002:				
January:				
Austria	--	--	110	83,100
Canada	15,200	404,000	--	--
Ecuador	101	2,980	--	--
Israel	1,750	21,400	--	--
Japan	23,100	311,000	2,500	39,300
Korea	178	5,250	--	--
Mexico	10,600	286,000	--	--
Philippines	502	14,700	--	--
Taiwan	1,180	34,700	--	--
Total	52,500	1,080,000	2,610	122,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND  
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2001	2,550,000	\$20,500,000	600,000	\$3,460,000	1,080,000	\$510,000
2002:						
January:						
Belgium	29,900	203,000	--	--	--	--
Canada	9,390	75,300	--	--	--	--
China	--	--	558	4,430	--	--
Czech Republic	60,900	448,000	--	--	--	--
Mexico	--	--	82,000	74,000	--	--
South Africa	154,000	117,000	20,500	157,000	--	--
Total	254,000	1,900,000	103,000	235,000	--	--
Exports:						
2001	70,000	768,000	71,400	407,000	63,000	562,000
2002:						
January:						
Canada	4,440	68,500	--	--	3,050	31,200
France	--	--	20,200	98,100	--	--
Total	4,440	68,500	20,200	98,100	3,050	31,200

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG 1/

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2001	1,980,000	\$2,270,000	1,980,000	\$1,290,000	998,000	\$1,170,000
2002:						
January:						
Canada	--	--	176,000	85,800	480,000	75,200
Total	--	--	176,000	85,800	480,000	75,200

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS  
VANADIUM CHEMICALS 1/

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2001	--	--	102,000	\$623,000
2002:				
January:				
Germany	--	--	19	2,910
South Africa	--	--	12,400	112,000
Total	--	--	12,400	115,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.